VOL. VII.—No. 12. December, 1913

JOURNAL

OF THE

American Society for Psychical Research

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THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

By James H. Hyslop.

The meeting of the British Association for the Advancement of Science, the eighty-third in its history, will always stand high in the annals of psychic research. It was the address of its President, Sir Oliver Lodge, the Principal of the University of Birmingham, which gave it this character. The address was a reply to the one delivered by its previous President, Professor Schaefer, who had defended the mechanical theory of the universe. In his address Sir Oliver Lodge defended the doctrine of continuity in nature as opposed to the theory of materialism, and he closed his address with the announcement of his belief in the personal survival of human consciousness as the crowning result of his investigations and as the most important fact in the refutation of the mechanical theory of nature.

There was nothing new in what Sir Oliver Lodge said on the subject. He did not say as much as he has publicly said a dozen or more times before, but it was the time and place in which he said it that gave the statement its value. As a matter of fact the announcement at any time should have had as much importance, but human nature always attaches great weight to public occasions of this kind. It is probably not the mere publicity of it before such a body of scientific men that explains psychologically the interest ex-

cited by the announcement, but the fact that it more or less implicates the Association in the ideas when any appreciation of its President's views is expressed, and the address met with a remarkable reception. It immediately excited newspaper comment all over the world and the papers in England reported the proceedings of the Association at great length. The London *Times* gave up two pages of its columns each morning to the transactions of the preceding day. *The Contemporary Review* at once asked Sir William Barrett for a paper on the address and it was published in the October number of that review. In the meantime all England and America were ablaze with interest in the meeting.

It may be important to explain to readers the facts leading up to the occasion and the writer's relation to the meeting of the Association as they have some bearing upon the difference between England and America on scientific problems.

Your Secretary had planned to go to England to see Sir Oliver Lodge, Sir William Barrett, Sir William Crookes and others of the Society for Psychical Research on matters connected with the American Society, and in the course of correspondence with several persons learned that September was a part of the vacation for all whom he wished to see, and that some of them would be absent from home at the meeting of the British Association in September and could not be seen until that was over. The writer then planned to wait until October to accomplish his object. But Sir William Barrett suggested to him the possibility of coming to the meetings of the Association and that he might be able to come as a delegate for some organization. One month before the meeting the papers in this country announced that Sir Oliver Lodge was to speak on the subject of psychic research in his Presidential Address. Tho the content of the announcement was palpably mixed up with newspaper misrepresentation, it was apparent that something was to be said. The writer at once decided to secure a delegateship, if he could, from the American Association for the Advancement of Science, of which he is a Fellow,

and wrote to the Secretary, Mr. L. O. Howard, for credentials, which were at once despatched. On arrival in England and the presentation of his credentials he was at once admitted to the General Committee of the Association. This meant that he was to be received as a guest of honor from another association.

The writer soon ascertained some interesting facts about the premature announcement of the nature of the President's address. It had not been intended to have the announcement made before the delivery of the address. But, in order to insure a proper representation of what occurred, the address was printed beforehand and copies sent to all the leading newspapers in England a month prior to the meeting of the Association, with the condition that nothing was to be said on the subject until the address had been delivered. One of the London papers betrayed confidence and published a lying account of the contents of the address. But it indicated that something was coming and it could well be supposed that a man with the beliefs, the reputation, and the courage of Sir Oliver Lodge, would say something of importance when the time arrived. But it will be interesting to note what the publication of the news awakened in a paper like the New York *Times*. It at once published the following editorial which was its first sympathetic utterance editorially about the subject of psychic research. It was on the date of September 23d, 1913:

What Follows Death?

It is announced that the scientists of the British Association who will assemble at Birmingham on September 10th next will discuss the things in heaven and earth not dreamed of in material philosophy. Of the thirty papers already announced, including that of Sir Oliver Lodge, who is the new President of the association, twenty-seven will treat of the soul. Five years have elapsed since Sir Oliver startled his colleagues and the world with the solemn statement:

"The boundary between the two states—the known and the unknown—is still substantial, but is wearing thin in places; and, like excavators engaged in boring a tunnel from opposite ends, amid the roar of water and other noises, we are beginning to hear

now and again the strokes of the pickaxes of our comrades on the other side."

However the pickaxes of the spirit world are striving, the strokes of those working on this side of the grave—of those, that is, whose sense of humor will permit them—have been redoubled. What new message will the learned President of the British Association deliver, transmitted from regions unvisited by the moon's pale glimpses? His address, rumor has it, will base itself on the hypothesis accepted by science, that mass and energy are the same things in changing forms; that a universal medium pervades all space through which light, electricity, gravity, and things having dimensions interplay, imparting their attributes to each other. Professor Schaefer, the last President of the British Association, treated the subject of life on this planet as still in process of creation. Since the reading of his paper Sir William Ramsay and Professors Norman Collie and H. Patterson have announced before the British Chemical Society the artificial "birth of the atom"—the transmutation of matter by electrical means. Sir William Crookes had said, so recently as the meeting of the International Congress of Applied Chemistry in Berlin in 1903:

"A hundred years hence, shall we acquiesce in the resolution of the material universe into a swarm of rushing electrons?"

That is acquiesced in already. And the men of science are looking into the invisible for evidence of human personality, disembodied but alert and intelligent, and seeking communication with embodied souls. The trend of scientific effort today toward the unseen and the intangible can hardly be more remarked than in this selection of an avowed spiritualist to head one of the world's most august bodies of seekers after facts.

The chief interest of this editorial is in the last paragraph and it is important to record the fact that the *Times'* owner and one of its editors, who is now owner, or part owner, and editor of the New York *Sun*, had experiences with Eusapia Palladino when she was in this country, and were profoundly impressed with their character, in spite of the exposure given the phenomena, and one man of international reputation who was present at the experiments and knew what was done in the exposure told me personally that "it was no exposure at all." Now, I do not take up the defence of that case, as readers well know my attitude toward it and that it should have been approached by a different method and from a dif-

ferent standpoint. But I allude to it here to call attention to the actual sentiments of the owner and editor toward the case and the subject, tho they would not whisper a word in criticism of the course taken or suggest the need of scientific investigation of the subject. It is something of progress to have the *Times* express itself in this manner, and it is possible that other journals did the same. But whatever was done did not come to the writer's attention. The public, however, cannot escape the implication of what the *Times* has said, and will have no excuse for its neglect of the subject except its preference of respectability to the truth.

The article whetted the writer's appetite for attending the meetings of the British Association and he made sure to arrange for his presence. On his arrival in Birmingham he expected no difficulty in finding accommodations at a hotel, but to his astonishment every hotel was full to the utmost two days before the Association met, all rooms having been taken up long before the meeting. This was in a city of 860,000 inhabitants. In addition more than 200 private families had offered accommodations to such as could not secure quarters in the hotels. No such interest betrays itself in America when scientific men meet. Birmingham also outdid itself in the means of entertaining the Association. The Lord Mayor gave a reception at which refreshments were provided, followed by a ball. The Cadburys, one of the largest chocolate manufacturers in the kingdom, provided a free excursion to the members of the Association and their friends, gave a play by the employees of the company, in the park belonging to the firm and devoted to the use of the employees, a gymnastic exhibition, a May-pole dance, and refreshments, with a gift box of chocolates to all that were present, numbering at least two thousand people. Free admission to the theatre and the opera was also given and excursions arranged to a number of places and to the important manufacturing institutions in and about the city. Warwick Castle and Stratford-on-Avon were two which the writer joined, while others made different choices.

These incidents are a mark of the respect which England pays to scientific men and their work, and one of the most

surprising things to the writer was the uniform respect which these men and all others paid to psychic research. No one ridiculed it. This function seems to have been left to a set of Philistines of a rather discredited type who have not yet learned that they are losing respectability and the confidence of the public by their radical vaporings. The writer had supposed that they were still all-powerful, but was astonished to find that no intelligent man any longer ridicules the subject. Its standing has been won, whether the views of Sir Oliver Lodge have secured support or not. America has not yet learned how far behind it is in the race of respectability. It is still in the dark ages of contempt for the work, and will have to awaken or lose its reputation for progressive ideas.

The Association was divided into Sections denominated by the letters of the alphabet, and numbering thirteen. Psychology was admitted for the first time in the history of the Association into a place among the subjects deserving to be called scientific, but it was made a Sub-Section of Physiology. The prepossessions of the members had not yet been overcome sufficiently to conceive that psychology might be a science of its own. The classification of it was made in harmony with the mechanical theories which have dominated the history of science, and which were incarnated in the address of President Schaefer last year. The writer remarked to Professor McDougall, who was President of the Psychological Sub-Section, that if the views of Sir Oliver Lodge prevailed, Physiology would be a Sub-Section of Psychology in the future, and he replied that he had already said this publicly. However this may be, the subject has won a place in the deliberations of the British Association, tho psychic research obtained no place and need not obtain a place outside the notice of the President. It is a branch of Psychology and should not be made an independent science.

The Presidential Address of the Association is supposed to strike the keynote of the time and interests involved, and this the address of Sir Oliver Lodge endeavored to do with much success. He chose as the general subject of it the problem of Continuity. This is perhaps not clear to the

layman, but it is intended to controvert that theory which tends toward mechanical atomism, whatever that means. The prevailing conception attached to the doctrine of atoms had been the materialistic theory of the universe and those who did not like this view contrived to express their opposition to it in the term "Continuity", tho the present writer does not like the term, owing to its obscurantism. But if we will only understand that it is used to antagonize mechanical theories we may well understand it to the extent in which mechanical theories are themselves understood. But this is neither here nor there. The main point is that Sir Oliver Lodge chose to title his address as on Continuity, and to mean by it the controversion of the mechanical view of the world. He began his attack on materialistic dogmatism by remarking the sceptical attitude of the present age on fundamental problems, and thus availed himself of a weapon which had been rather exclusively employed against theology by science generally. This was a skillful mode of approach, and we quote his language:

> And now, eliminating from our purview, as is always necessary, a great mass of human activity, and limiting ourselves to a scrutiny on the side of pure science alone, let us ask what, in the main, is the characteristic of the promising though perturbing period in which we live. Different persons would give different answers, but the answer I venture to give is—Rapid progress, combined with Fundamental scepticism.

After enumerating the special incidents which marked off this progress; namely, the realization of the predicted ether waves in 1888, the discovery of X-rays in 1895, spontaneous radio-activity in 1896, and the isolation of the electron in 1898, he went on to indicate what this fundamental scepticism was. He said:

> Let me hasten to explain that I do not mean the well-worn and almost antique theme of Theological scepticism: that controversy is practically in abeyance just now. At any rate the major conflict is suspended; the forts behind which the enemy has retreated do not invite attack; the territory now occupied by him is little more than his legitimate province. It is the scientific

allies, now, who are waging a more or less invigorating conflict among themselves; with Philosophers joining in. Meanwhile the ancient foe is biding his time and hoping that from the struggle something will emerge of benefit to himself. Some positions, he feels, were too hastily abandoned and may perhaps be retrieved; or, to put it without metaphor, it seems possible that a few of the things prematurely denied, because asserted on inconclusive evidence, may after all, in some form or other, have really happened. Thus the old theological bitterness is mitigated, and a temporising policy is either advocated or instinctively adopted.

To illustrate the nature of the fundamental scientific or philosophic controversies to which I do refer, would require almost as many addresses as there are Sections of the British Association, or at any rate as many as there are chief cities in Australia; and perhaps my successor in the chair will continue the theme; but, to exhibit my meaning very briefly, I may cite the kind of dominating controversies now extant, employing as far as possible only a single word in each case so as to emphasize the necessary brevity and insufficiency of the reference.

In Physiology the conflict ranges round *Vitalism.* (My immediate predecessor dealt with the subject at Dundee.)

In Chemistry the debate concerns *Atomic structure.* (My penultimate predecessor is well aware of pugnacity in that region.)

In Biology the dispute is on the laws of *Inheritance.* (My nominated successor is likely to deal with this subject; probably in a way not deficient in liveliness.)

And besides these major controversies, debate is active in other sections:

In Education, *Curricula* generally are being overhauled or fundamentally criticised, and revolutionary ideas are promulgated concerning the advantages of freedom for infants.

In Economic and Political Science, or Sociology, what is there that is not under discussion? Not property alone, not land alone, but everything,—back to the garden of Eden and the inter-relations of men and women.

Lastly, in the vast group of Mathematical and Physical Sciences, "slurred over rather than summed up as Section A," present-day scepticism concerns what, if I had to express it in one word, I should call *Continuity.* The full meaning of this term will hardly be intelligible without explanation, and I shall discuss it presently.

Still more fundamental and deep-rooted than any of these sectional debates, however, a critical examination of scientific foundations generally is going on; and a kind of philosophic scepticism is in the ascendant, resulting in a mistrust of purely in-

tellectual processes and in a recognition of the limited scope of science.

For science is undoubtedly an affair of the intellect, it examines everything in the cold light of reason; and that is its strength. It is a commonplace to say that science must have no likes or dislikes, must aim only at truth; or as Bertrand Russell well puts it:

"The kernel of the scientific outlook is the refusal to regard our own desires, tastes, and interests as affording a key to the understanding of the world."

This exclusive single-eyed attitude of science is its strength; but, if pressed beyond the positive region of usefulness into a field of dogmatic negation and philosophising, it becomes also its weakness. For the nature of man is a large thing, and intellect is only a part of it: a recent part too, which therefore necessarily, though not consciously, suffers from some of the defects of newness and crudity, and should refrain from imagining itself the whole—perhaps it is not even the best part—of human nature.

The fact is that some of the best things are, by abstraction, excluded from Science, though not from Literature and Poetry; hence perhaps an ancient mistrust or dislike of science, typified by the Promethean legend. Science is systematised and *metrical* knowledge, and in regions where measurement cannot be applied it has small scope; or, as Mr. Balfour said the other day at the opening of a new wing of the National Physical Laboratory,

"Science depends on measurement, and things not measurable are therefore excluded, or tend to be excluded, from its attention. But Life and Beauty and Happiness are not measurable." And then characteristically he adds:—"If there could be a unit of happiness, Politics might begin to be scientific."

Emotion and Intuition and Instinct are immensely older than science, and in a comprehensive survey of existence they cannot be ignored. Scientific men may rightly neglect them, in order to do their proper work, but philosophers cannot.

So Philosophers have begun to question some of the larger generalizations of science, and to ask whether in the effort to be universal and comprehensive we have not extended our laboratory inductions too far. The Conservation of Energy, for instance,—is it always and everywhere valid; or may it under some conditions be disobeyed? It would seem as if the second law of Thermodynamics must be somewhere disobeyed—at least if the age of the Universe is both ways infinite,—else the final consummation would have already arrived.

Not by philosophers only, but by scientific men also, ancient postulates are being pulled up by the roots. Physicists and Mathematicians are beginning to consider whether the long-

known and well-established laws of mechanics hold true everywhere and always, or whether the Newtonian scheme must be replaced by something more modern, something to which Newton's laws of motion are but an approximation.

The important point to which attention should be called in these remarks is the tendency of certain writers to assign limits to science and to define it as a *metrical* procedure, an inquiry aiming only at accurate and mathematical results. Mr. Balfour makes it "depend on measurement" and so in fact excludes much from it besides poetry and literature, tho he may not intend to do this. The psychic researcher need not care if this is done, as it will not affect the nature and importance of his inquiries, tho it excludes the sympathy and coöperation of the scientist in that narrower conception of his function. But it equally excludes his right to condemn and ignore. You cannot exclude a group of facts from your science and then sit in judgment upon them because they are not within your purview. You are forced to be tolerant. What the writer would contend for is that science does not depend on measurement and that its primary function is not *metrical.* That may be true of physics, astronomy, and chemistry, but to make it the fundamental characteristic of all science would be to exclude physiology, biology, sociology, ethics and economics, and to regard them as wholly non-scientific, and so far as importance of them is concerned this would make no difference. But it would prove that the important facts in life do not belong to science at all, a position which even the "metrical" scientist does not concede. Science is method, not result. It deals with probabilities quite as well as with certitudes, with indefinite facts, as well as measured ones. It is critical reflection as opposed to blind belief. It is the demand for evidence as opposed to belief without evidence, and accuracy is not its essential feature. To make accuracy its fundamental and most important characteristic is to leave the great problems of life and thought to irresponsible emotion and faith, and would thus deprive science of the right to regulate human beliefs. With science a mere method of interrogating human experience, the present moment, and fixing the permanent and

transient elements in that experience, we have a criterion of truth that equally limits tradition and restrains imagination, and this is its important function.

After stating wherein the sceptical spirit has invaded science, partly because it has found its metrical method so fruitful and partly because it has found certain generalizations and laws less universal than had been at first supposed, Sir Oliver Lodge discusses the various theories of matter and ether, briefly in each case and only to show wherein scepticism is limited in denials, and then takes up the electrical theory of matter to enforce his doctrine and to construct the approach to the hypothesis of ether.

The electrical theory of matter is a positive achievement, and has positive results. By its aid we make experiments which throw light upon the relation between matter and the Ether of Space. The Principle of Relativity, which seeks to replace it, is a principle of negation a negative proposition, a statement that observation of certain facts can never be made, a denial of any relation between matter and ether, a virtual denial that the ether exists. Whereas if we admit the real changes that go on by reason of rapid motion, a whole field is open for discovery; it is even possible to investigate the changes in shape of an electron —appallingly minute though it is—as it approaches the speed of light; and properties belonging to the Ether of Space, evasive though it be, cannot be far behind.

Speaking as a physicist I must claim the Ether as peculiarly our own domain. The study of molecules we share with the chemist, and matter in its various forms is investigated by all men of science, but a study of the ether of space belongs to physics only. I am not alone in feeling the fascination of this portentous entity. Its curiously elusive and intangible character, combined with its universal and unifying permeance, its apparently infinite extent, its definite and perfect properties, make the ether the most interesting as it is by far the largest and most fundamental ingredient in the material cosmos.

As Sir J. J. Thomson said at Winnipeg—

"The ether is not a fantastic creation of the speculative philosopher; it is as essential to us as the air we breathe.... The study of this all-pervading substance is perhaps the most fascinating and important duty of the physicist."

Matter it is not, but material it is; it belongs to the material universe and is to be investigated by ordinary methods. But to say this is by no means to deny that it may have mental and

spiritual functions to subserve in some order of existence, as Matter has in this.

The ether of space is at least the great engine of continuity. It may be much more, for without it there could hardly be a material universe at all. Certainly, however, it is essential to continuity; it is the one all-permeating substance that binds the whole of the particles of matter together. It is the uniting and binding medium without which, if matter could exist at all, it could exist only as chaotic and isolated fragments: and it is the universal medium of communication between worlds and particles. And yet it is possible for people to deny its existence, because it is unrelated to any of our senses, except sight,—and to that only in an indirect and not easily recognized fashion.

To illustrate the thorough way in which we may be unable to detect what is around us unless it has some link or bond which enables it to make appeal, let me make another quotation from Sir J. J. Thomson's address at Winnipeg in 1909. He is leading up to the fact that even single atoms, provided they are fully electrified with the proper atomic charge, can be detected by certain delicate instruments,—their field of force bringing them within our ken—whereas a whole crowd of unelectrified ones would escape observation.

"The smallest quantity of unelectrified matter ever detected is probably that of neon, one of the inert gases of the atmosphere. Professor Strutt has shown that the amount of neon in one-twentieth of a cubic centimetre of the air at ordinary pressures can be detected by the spectroscope; Sir William Ramsay estimates that the neon in the air only amounts to one part of neon in 100,000 parts of air, so that the neon in one-twentieth of a cubic centimetre of air would only occupy at atmospheric pressure a volume of half a millionth of a cubic centimetre. When stated in this form the quantity seems exceedingly small, but in this small volume there are about ten million million molecules. Now the population of the earth is estimated at about fifteen millions, so that the smallest number of molecules of neon we can identify is about 7,000 times the population of the earth. In other words, if we had no better test for the existence of a man than we have for that of an unelectrified molecule we should come to the conclusion that the earth is uninhabited."

The parable is a striking one, for on these lines it might legitimately be contended that we have no right to say positively that even space is uninhabited. All we can safely say is that we have no means of detecting the existence of non-planetary immaterial dwellers, and that unless they have some link or bond with the material they must always be physically beyond our

ken. We may therefore for practical purposes legitimately treat them as non-existent until such link is discovered, but we should not dogmatize about them. True agnosticism is legitimate, but not the dogmatic and positive and gnostic variety.

For I hold that Science is incompetent to make comprehensive denials, even about the Ether, and that it goes wrong when it makes the attempt. Science should not deal in negations: it is strong in affirmations, but nothing based on abstraction ought to presume to deny outside its own region. It often happens that things abstracted from and ignored by one branch of science may be taken into consideration by another:

Thus, Chemists ignore the Ether.

Mathematicians may ignore experimental difficulties.

Physicists ignore and exclude live things.

Biologists exclude Mind and Design.

Psychologists may ignore human origin and human destiny.

Folk-lore students and comparative Mythologists need not trouble about what modicum of truth there may be in the legends which they are collecting and systematizing.

And Microscopists may ignore the stars.

Yet none of these ignored things should be denied.

Denial is no more infallible than assertion. There are cheap and easy kinds of scepticism, just as there are cheap and easy kinds of dogmatism; in fact scepticism can become viciously dogmatic, and science has to be as much on its guard against personal predilection in the negative as in the positive direction. An attitude of universal denial may be very superficial.

"To doubt everything or to believe everything are two equally convenient solutions; both dispense with the necessity of reflection."

All intellectual processes are based on abstraction. For instance, History must ignore a great multitude of facts in order to treat any intelligently: it selects. So does Art; and that is why a drawing is clearer than reality. Science makes a diagram of reality, displaying the works, like a skeleton clock. Anatomists dissect out the nervous system, the bood vessels, and the muscles, and depict them separately,—there must be discrimination for intellectual grasp,—but in life they are all merged and cooperating together; they do not really work separately, though they may be studied separately. A scalpel discriminates: a dagger or a bullet crashes through everything. That is life,—or rather death. The laws of nature are a diagrammatic framework, analyzed or abstracted out of the full comprehensiveness of reality.

Hence it is that Science has no authority in denials. To deny effectively needs much more comprehensive knowledge than to

assert. And abstraction is essentially not comprehensive: one cannot have it both ways. Science employs the methods of abstraction and thereby makes its discoveries.

Biology and Physiology then come in for consideration in their relation to the doctrine of materialism, and the discourse moves naturally into the problem of the relation of consciousness to organism. The following is what Sir Oliver Lodge says on this point:

What appears to be quite certain is that there can be no terrestrial manifestation of life without matter. Hence naturally they say, or they approve such sayings as, "I discern in matter the promise and potency of all forms of life." Of all terrestrial manifestations of life, certainly. How else could it manifest itself save through matter? "I detect nothing in the organism but the laws of Chemistry and Physics," it is said. Very well: naturally enough. That is what they are after; they are studying the physical and chemical aspects or manifestations of life. But life itself—life and mind and consciousness—they are not studying, and they exclude them from their purview. Matter is what appeals to our senses here and now; Materialism is appropriate to the material world; not as a philosophy but as a working creed, as a proximate and immediate formula for guiding research. Everything beyond that belongs to another region, and must be reached by other methods. To explain the Psychical in terms of Physics and Chemistry is simply impossible; hence there is a tendency to deny its existence, save as an epiphenomenon. But all such philosophizing is unjustified, and is really bad Metaphysics.

So if ever in their enthusiasm scientific workers go too far and say that the things they exclude from study have no existence in the universe, we must appeal against them to direct experience. We ourselves are alive, we possess life and mind and consciousness, we have first-hand experience of these things quite apart from laboratory experiments. They belong to the common knowledge of the race. Births, deaths, and marriages are not affairs of the biologist, but of humanity; they went on before a single one of them was understood, before a vestige of science existed. We ourselves are the laboratory in which men of science, psychologists and others, make experiments. They can formulate our processes of digestion, and the material concomitants of willing, of sensation, of thinking; but the hidden guiding entities they do not touch.

So also if any philosopher tells you that you do not exist, or

that the external world does not exist, or that you are an automaton without free will, that all your actions are determined by outside causes and that you are not responsible,—or that a body cannot move out of its place, or that Achilles cannot catch a tortoise,—then in all those cases appeal must be made to twelve average men, unsophisticated by special studies. There is always a danger of error in interpreting experience, or in drawing inferences from it; but in a matter of bare fact, based on our own first-hand experience, we are able to give a verdict. We may be mistaken as to the nature of what we see. Stars may look to us like bright specks in a dome, but the fact that we see them admits of no doubt. So also Consciousness and Will are realities of which we are directly aware, just as directly as we are of motion and force, just as clearly as we apprehend the philosophizing utterances of an Agnostic. The process of seeing, the plain man does not understand; he does not recognize that it is a method of etherial telegraphy; he knows nothing of the ether and its ripples, nor of the retina and its rods and cones, nor of nerve and brain processes; but he sees and he hears and he touches, and he wills and he thinks and is conscious. This is not an appeal to the mob as against the philosopher; it is appeal to the experience of untold ages as against the studies of a generation.

How consciousness became associated with matter, how life exerts guidance over chemical and physical forces, how mechanical motions are translated into sensations,—all these things are puzzling, and demand long study. But the fact that these things are so admits of no doubt; and difficulty of explanation is no argument against them. The blind man restored to sight had no opinion as to how he was healed, nor could he vouch for the moral character of the Healer, but he plainly knew that whereas he was blind now he saw. About that fact he was the best possible judge. So it is also with " this main miracle that thou art thou, With power on thine own act and on the world."

But although Life and Mind may be excluded from Psysiology, they are not excluded from Science. Of course not. It is not reasonable to say that things necessarily elude investigation merely because we do not knock against them. Yet the mistake is sometimes made. The ether makes no appeal to sense, therefore some are beginning to say that it does not exist. Mind is occasionally put into the same predicament. Life is not detected in the laboratory, save in its physical and chemical manifestations; but we may have to admit that it guides processes nevertheless. It may be called a catalytic agent.

To understand the action of life itself, the simplest plan is not to think of a microscopic organism, or any unfamiliar animal, but

to make use of our own experience as living beings. Any positive instance serves to stem a comprehensive denial; and if the reality of mind and guidance and plan is denied because they make no appeal to sense, then think how the world would appear to an observer to whom the existence of men was unknown and undiscoverable, while yet all the laws and activities of nature went on as they do now.

After some illustrations in man's mechanical works to show the presence of design where mechanical laws are also present, Sir Oliver Lodge comes into direct issue with mechanical theories and slips easily into the problem of a future life after death.

The mechanism whereby existence entrenches itself is manifest, or at least has been to a large extent discovered. Natural Selection is a vera causa, so far as it goes; but if so much beauty is necessary for insects, what about the beauty of a landscape or of clouds? What utilitarian object do those subserve? Beauty in general is not taken into account by science. Very well, that may be all right, but it exists nevertheless. It is not my function to discuss it. No; but it is my function to remind you and myself that our studies do not exhaust the Universe, and that if we dogmatize in a negative direction, and say that we can reduce everything to physics and chemistry, we gibbet ourselves as ludicrously narrow pedants, and are falling far short of the richness and fullness of our human birthright. How far preferable is the reverent attitude of the Eastern Poet:

> "The world with eyes bent upon thy feet stands in awe with all its silent stars."

Superficially and physically we are very limited. Our sense organs are adapted to the observation of matter; and nothing else directly appeals to us. Our nerve-muscle-system is adapted to the production of motion in matter, in desired ways; and nothing else in the material world can we accomplish. Our brain and nerve systems connect us with the rest of the physical world. Our senses give us information about the movements and arrangements of matter. Our muscles enable us to produce changes in those distributions. That is our equipment for human life; and human history is a record of what we have done with these parsimonious privileges.

Our brain, which by some means yet to be discovered connects us with the rest of the material world, has been thought

partially to disconnect us from the mental and spiritual realm, to which we really belong but from which for a time and for practical purposes we are isolated. Our common or social association with matter gives us certain opportunities and facilities, combined with obstacles and difficulties which are themselves opportunities for struggle and effort.

Through matter we become aware of each other, and can communicate with those of our fellows who have ideas sufficiently like our own for them to be stimulated into activity by a merely physical process set in action by ourselves. By a timed succession of vibratory movements (as in speech and music), or by a static distribution of materials (as in writing, painting, and sculpture), we can carry on intelligent intercourse with our fellows; and we get so used to these ingenious and roundabout methods, that we are apt to think of them and their like as not only the natural but as the only possible modes of communication, and that anything more direct would disarrange the whole fabric of science.

It is clearly true that our bodies constitute the normal means of manifesting ourselves to each other while on the planet; and that if the physiological mechanism whereby we accomplish material acts is injured, the conveyance of our meaning and the display of our personality inevitably and correspondingly suffer.

So conspicuously is this the case that it has been possible to suppose that the communicating mechanism, formed and worked by us, is the whole of our existence; and that we are essentially nothing but the machinery by which we are known. We find the machinery utilizing nothing but well-known forms of energy, and subject to all the laws of chemistry and physics,—it would be strange if it were not so,—and from that fact we try to draw valid deductions as to our nature, and as to the impossibility of our existing apart from and independent of these temporary modes of material activity and manifestation. We so uniformly employ them, in our present circumstances, that we should be on our guard against deception due to this very uniformity. Material bodies are all that we have any control over, are all that we are experimentally aware of; anything that we can do with these is open to us; any conclusions we can draw about them may be legitimate and true. But to step outside their province and to deny the existence of any other region because we have no sense organ for its appreciation, or because (like the Ether) it is too uniformly omnipresent for our ken, is to wrest our advantages and privileges from their proper use and apply them to our own misdirection.

But if we have learned from science that Evolution is real, we have learned a great deal. I must not venture to philoso-

phize, but certainly from the point of view of science Evolution is a great reality. Surely evolution is not an illusion; surely the universe progresses in time. Time and Space and Matter are abstractions, but are none the less real: they are data given by experience; and Time is the keystone of evolution. "Thy centuries follow each other, perfecting a small wild flower."

We abstract from living moving Reality a certain static aspect, and we call it Matter; we abstract the element of progressiveness, and we call it Time. When these two abstractions combine, co-operate, interact, we get reality again. It is like Poynting's theorem.

The only way to refute or confuse the theory of Evolution is to introduce the subjectivity of time. That theory involves the reality of time, and it is in this sense that Professor Bergson uses the great phrase "Creative Evolution."

I see the whole of material existence as a steady passage from past to future, only the single instant which we call the present being actual. The past is not non-existent however, it is stored in our memories, there is a record of it in matter, and the present is based upon it: the future is the outcome of the present, and is the product of evolution.

Existence is like the output from a loom. The pattern, the design for the weaving, is in some sort "there" already; but whereas our looms are mere machines, once the guiding cards have been fed into them, the Loom of Time is complicated by a multitude of free agents who can modify the web, making the product more beautiful or more ugly according as they are in harmony or disharmony with the general scheme. I venture to maintain that manifest imperfections are thus accounted for, and that *freedom* could be given on no other terms, nor at any less cost.

The ability thus to work for weal or woe is no illusion, it is a reality, a responsible power which conscious agents possess; wherefore the resulting fabric is not something preordained and inexorable, though by wide knowledge of character it may be inferred. Nothing is inexorable except the uniform progress of time; the cloth must be woven, but the pattern is not wholly fixed and mechanically calculable.

Where inorganic matter alone is concerned, there everything is determined. Wherever full consciousness has entered, new powers arise, and the faculties and desires of the conscious parts of the scheme have an effect upon the whole. It is not guided from outside but from within, and the guiding power is immanent at every instant. Of this guiding power we are a small but not wholly insignificant portion.

That evolutionary progress is real is a doctrine of profound

significance, and our efforts at social betterment are justified because we are a part of the scheme, a part that has become conscious, a part that realizes, dimly at any rate, what it is doing and what it is aiming at. Planning and aiming are therefore not absent from the whole, for we are a part of the whole, and are conscious of them in ourselves.

Either we are immortal beings or we are not. We may not know our destiny, but we must have a destiny of some sort. Those who make denials are just as likely to be wrong as those who make assertions: in fact, denials are assertions thrown into negative form. Scientific men are looked up to as authorities, and should be careful not to mislead. Science may not be able to reveal human destiny, but it certainly should not obscure it. Things are as they are, whether we find them out or not; and if we make rash and false statements, posterity will detect us—if posterity ever troubles its head about us. I am one of those who think that the methods of Science are not so limited in their scope as has been thought: that they can be applied much more widely, and that the Psychic region can be studied and brought under law too. Allow us anyhow to make the attempt. Give us a fair field. Let those who prefer the materialistic hypothesis by all means develop their thesis as far as they can; but let us try what we can do in the Psychical region, and see which wins. Our methods are really the same as theirs—the subject-matter differs. Neither should abuse the other for making the attempt.

Whether such things as intuition and revelation ever occur is an open question. There are some who have reason to say that they do. They are at any rate not to be denied off-hand. In fact, it is always extremely difficult to deny *anything* of a general character, since evidence in its favor may be only hidden and not forthcoming, especially not forthcoming at any particular age of the world's history, or at any particular stage of individual mental development. Mysticism must have its place, though its relation to Science has so far not been found. They have appeared disparate and disconnected, but there need be no hostility between them. Every kind of reality must be ascertained and dealt with by proper methods. If the voices of Socrates and of Joan of Arc represent real psychical experiences, they must belong to the intelligible universe.

Although I am speaking ex cathedra, as one of the representatives of orthodox science, I will not shrink from a personal note summarizing the result on my own mind of thirty years' experience of psychical research, begun without predilection—indeed with the usual hostile prejudice. This is not the place to enter into detail or to discuss facts scorned by orthodox science, but I cannot help remembering that an utterance from this chair

is no ephemeral production, for it remains to be criticized by generations yet unborn, whose knowledge must inevitably be fuller and wider than our own. Your President therefore should not be completely bound by the shackles of present-day orthodoxy, nor limited to beliefs fashionable at the time. In justice to myself and my co-workers I must risk annoying my present hearers, not only by leaving on record our conviction that occurrences now regarded as occult can be examined and reduced to order by the methods of science carefully and persistently applied, but by going further and saying, with the utmost brevity, that already the facts so examined have convinced me that memory and affection are not limited to that association with matter by which alone they can manifest themselves here and now, and that personality persists beyond bodily death. The evidence—nothing new or sensational, but cumulative and demanding prolonged serious study—to my mind goes to prove that discarnate intelligence, under certain conditions, may interact with us on the material side, thus indirectly coming within our scientific ken; and that gradually we may hope to attain some understanding of the nature of a larger, perhaps etherial, existence, and of the conditions regulating intercourse across the chasm. A body of responsible investigators has even now landed on the treacherous but promising shores of a new continent.

Yes, and there is more to say than that. The methods of science are not the only way, though they are our way, of arriving at truth. *"Uno itinere non potest perveniri ad tam grande secretum."*

Many scientific men still feel in pugnacious mood towards Theology, because of the exaggerated dogmatism which our predecessors encountered and overcame in the past. They had to struggle for freedom to find truth in their own way; but the struggle was a deplorable necessity, and has left some evil effects. And one of them is this lack of sympathy, this occasional hostility, to other more spiritual forms of truth. We cannot really and seriously suppose that truth began to arrive on this planet a few centuries ago. The pre-scientific insight of genius —of Poets and Prophets and Saints—was of supreme value, and the access of those inspired seers to the heart of the universe was often profound. But the camp followers, the scribes and pharisees, by whatever name they may be called, had no such insight, only a vicious or a foolish obstinacy; and the prophets of a new era were stoned.

Now at last we of the new era have been victorious, and the stones are in our hands. But for us to imitate the old ecclesiastical attitude would be folly, for it cannot be sustained; humanity would ultimately rise against us, and there would come yet an-

other period of reaction, in which for a time we should be worsted. Through the best part of two centuries there has been a revolt from religion, led by Voltaire and other great writers of that age; but let us see to it that the revolt ceases when it has gone far enough. Let us not fall into the mistake of thinking that ours is the only way of exploring the multifarious depths of the universe, and that all others are worthless and mistaken. The universe is a larger thing than we have any conception of, and no one method of search will exhaust its treasures.

Men and brethren, we are trustees of the truth of the physical universe as scientifically explored; let us be faithful to our trust. Genuine religion has its roots deep down in the heart of humanity and in the reality of things. It is not surprising that by our methods we fail to grasp it: the actions of the Deity make no appeal to any special sense, only a universal appeal; and our methods are, as we know, incompetent to detect complete uniformity. There is a Principle of Relativity here, and unless we encounter flaw or jar or change, nothing in us responds; we are deaf and blind therefore to the Immanent Grandeur, unless we have insight enough to recognize in the woven fabric of existence, flowing steadily from the loom in an infinite progress towards perfection, the ever-growing garment of a transcendent God.

Readers will remark that survival after death is the crowning result of the criticism of the mechanical theory and that Sir Oliver Lodge only announces his personal conviction based upon evidence, which he does not produce here and cannot be expected to produce here. It is the challenge of scientific scepticism that constitutes the main value of the pronouncement, and a body like the British Association tolerated the expression because it knew well enough beforehand and before the election of Sir Oliver Lodge to its presidency, that he was of this opinion, and indeed many of its members openly expressed the wish that he would reply to the materialistic address of last year by President Schaefer.

One point that was not made against mechanical theories, tho hinted at in certain terms, is this. You cannot assert or assume a complete antithesis between mechanical and teleological theories without denying the actual existence of consciousness. It is not a choice between mechanical and teleological processes in nature, but a question whether intelligence can be superadded to the mechanical without denying

the universality of the mechanical. There is no contradiction between intelligence and mechanism, but only a question whether we require to add intelligence to the mechanical as an additional causal agent. We do not require to conceive the process either all intelligent and nothing mechanical or all mechanical and nothing intelligent. The problem is whether the mechanical is all that is required to explain things. This gives teleology a conceivable place in the scheme, tho it requires evidence to prove it there as a fact. Moreover, in a monistic system you cannot get any sort of antithesis or antagonism between the mechanical and the teleological. There is no *a priori* in it for making intelligence an accident of it. It may be so, but that has to be proved where the materialistic theory starts with it absent.

The reception which the address met may be indicated in the editorial of the London *Times* the next day. I give it complete for record in our own work. It shows a frank recognition of the psychic problem and its rights, as well as what has been accomplished in it. Other papers gave it similar recognition, tho it was not without sneers from some quarters, as is quite natural from those who are what Sir Oliver Lodge calls dogmatic materialists, a position which he refuses to recognize on the ground that knowledge must be very comprehensive to make negative assertions on so large a scale as materialism requires. The editorial is dated September 11th, 1913:

The New Agnosticism.

Sir Oliver Lodge's presidential address to the British Association, which we print today, has been awaited with unusual interest, and it will not disappoint expectation. It is a notable utterance, worthy to rank with the very best of its predecessors, and likely to be often quoted hereafter as the Birmingham address. The eminent Principal of Birmingham University has seized the occasion to review the whole standpoint of science towards the things visible and invisible which its function is to search out and in some measure to understand. He has brought to the task not only wide knowledge, but an independent habit of mind and intellectual courage without arrogance. Indeed, his whole discourse is a protest against arrogance. That is the broadest lesson it conveys, and it is very opportune. Some such

utterance, made in a conspicuous way, was needed, if only to put science right with the public. The British Association, which plays the part of a connecting link between the two, could perform no more appropriate or valuable service than providing the occasion. The intellectual atmosphere has changed greatly since the famous Belfast address, given by another eminent physicist thirty-nine years ago. Science was then engaged in asserting its claims against a dogmatic theology, and perhaps some over-assertion was a necessary part of the phase, but over-assertion there certainly was. The public presently woke up to find that they had only exchanged one priesthood for another, and that the new dogmas were more arrogant than the old. The "laws of science," which meant any generalization current at the time, were more sacrosanct than Holy Writ, and nothing which could not be weighed or measured was allowed any validity. The mildest form of this bigotry called itself agnosticism: it professed a suspension of judgment concerning everything outside the weigh-and-measure field that alone constituted "evidence," but always implied and generally expressed contempt for convictions based upon any other sort of evidence. It was taken up, and of course distorted, by second-rate intelligences, and it had a popular run, though it never satisfied men who observe and think for themselves. The great lights of science always kept aloof from it, and gradually a reaction set in, partly through sheer weariness of the sterile controversy with religion, which was the chief objective, but still more through the advance of science itself, which demonstrated the extreme instability of the so-called laws by demolishing many as fast as they were set up and by threatening all. Pretensions to infallibility became absurd.

So the new agnosticism arose. It began with philosophers who recognized the limitations of science, but has now invaded science itself. Sir Oliver Lodge dealt with it at length in his own domain of physical science; but it is general. "A kind of philosophic scepticism," he said, "is in the ascendant, resulting in a mistrust of purely intellectual processes and in a recognition of the limited scope of science." It is in the ascendant, but not in undisputed possession. Some high priests of the Belfast order still cling to their posts and will not bow the knee to Birmingham without a struggle. They enjoy brandishing their dogmas and burning heretics at the stake in their own way as much as Torquemada himself, and they are loath to exchange the arrogant "What we do not know is not knowledge" of the old agnosticism for the modest "We do not know; we cannot be sure" of the new. Sir Oliver Lodge does not altogether bless the present vogue, which he abundantly illustrates by recent examples from physical research. He suggests that the pendulum

has swung too far, and that the tendency to "tear ancient postulates up by the roots" is overdone. An extreme instance is the "principle of relativity," which threatens the most fundamental conceptions. If it is fully accepted in its extreme application, time and space disappear, as we understand them, and become a series of disconnected units. In regard to all these matters he urges a conservative attitude, and he sees a way to retain the old and yet embrace the new. In particular he defends the conception of continuity, to which a large part of the address is devoted. Time and space, he argues, must be continuous, and that strange intangible thing, the æther, must be a real physical agent, though it eludes the laboratory grasp. His explanation of the æther and of our inability to observe it, or our own motion through it, is a brilliant piece of exposition. It must be of a density incomparably greater than any substance we know of, and yet everything moves through it freely without friction. There is no displacement; the æther is itself so modified as in some way to constitute the matter moving through it. We cannot observe it because it is omnipresent, uniform, and all-pervading. But Sir Oliver does not think the problem hopeless; he relies on the electrical theory of matter and repudiates the principle of relativity, which seeks to replace it, as "a principle of negation, a statement that observation of certain facts can never be made, a denial of any relation between matter and æther, a virtual denial that the æther exists." Such a comprehensive negation really lands us back in the old dogmatic position, but by the opposite road. We have boxed the logical compass and got back to north again the other way round.

It is no more the function of science to pronounce universal denials than absolute assertions. Its function is to seek out what it can by the limited means at its disposal, recognizing that they are limited and inadequate to the discovery of ultimate truth. Because some things are beyond its ken, it does not follow that they are not real, or that we cannot come at them by some other way. But its results are valid so far as they go, and the aim should be to supplement them, not to abandon them because they are incomplete. If we read Sir Oliver Lodge aright, that is the lesson he would teach. At the British Association last year Professor Schaefer said "the problems of life are essentially problems of matter"; and we explained this by adding that his science was limited to that field. Sir Oliver returned to the subject yesterday in pursuance of his general theme, and said the same thing. Biologists see nothing in life but the laws of chemistry and physics; and they are quite right, because that is their field. But it is not the whole field, Life introduces "an incalculable element," which goes beyond any conceivable application

of chemistry and physics. It may be studied in other ways and by other means. Beauty, too, lies outside the range of physical science; but it exists, as the audience at Birmingham were reminded yesterday in a passage which deserves quotation. It was not his function, said the orator, to discuss beauty, but "it is my function to remind you and myself that our studies do not exhaust the universe, and that if we dogmatize in a negative direction and say that we can reduce everything to physics and chemistry, we gibbet ourselves as ludicrously narrow pedants and are falling far short of the richness and fullness of our human birthright." He must have placed severe restraint upon himself to avoid quoting Hamlet, who sums up the whole account with that supreme felicity of thought and word which makes Shakespeare a marvel that no science can explain. By a natural transition Sir Oliver Lodge passed on from existence in this world to its continuity hereafter and to the question of immortality. The sensational disclosures which have been expected in some quarters were not forthcoming; but quietly, moderately, and firmly he made his profession of faith in the persistence of personality beyond bodily death, of which he has been convinced by strict evidence, and in the broad truth of religion. An impressive close was thus made to a fine effort, and one more consonant, we believe, with the present trend of advanced thought than repugnant to it.

The following editorial was printed by the New York *Times* of September 12th, 1913, two days after Sir Oliver Lodge had delivered his address.

Personality Beyond the Grave.

It was a comfortable old doctrine that the world ended with the circle of land about the Mediterranean. Its shores were known, its ports could be reached by all mariners, and it seemed impious and suicidal to put out beyond the Pillars of Hercules into the vast unknown ocean stream. Quite apart from his belief that the personalities of men survive death and attempt to signal through the ocean of ether to their companions in the body, the address of Sir Oliver Lodge, as President of the British Association, is inspiring in its challenge to scientific men to launch boldly upon uncharted waters. We may at least hope, this leader of a great body of scientists declares, to attain some understanding of the nature of a "larger, perhaps ethereal, existence," and of conditions, if such there be, regulating intercourse across the chasm. Thus far his message is clear and indisputable. But he dares go further with the bold announcement:

"A body of responsible investigators has even now landed on the treacherous but promising shores of the new continent."

The lives of men in all stages of civilization have been profoundly influenced by belief in a world stretching beyond their finite senses, a peopled world, a world of revelation and of present aid to striving humanity. Sir Oliver Lodge notes a narrowing tendency among scientific specialists who deny the existence of facts beyond their special ken—at any rate, beyond the testimony of their senses. Having voluntarily deprived themselves of the scientific imagination, he warns them that even the means of which they make use will be restricted, unless they will again open their minds to the facts of life which their rigid systems exclude. It will not yet do to reduce the world to the terms of physics and of chemistry; when these have played their due part in explaining, for example, the broadsides fired from a battleship, something outside their field must be added to show why the ship was in action and how its firing distinguishes between friend and foe. The spirit within the body may be potent, though both it and its container be distant and invisible, in swaying the wills and in determining the acts of many other living bodies. May not a disembodied spirit do the same?

The spirits of the dead are real and mighty; the leaders of mankind through all time still guide its onward steps, though their bodies are in the grave. Sir Oliver is well within the facts of recorded history when he expresses his conviction that " memory and affection are not limited to that association with matter by which alone they can manifest themselves here and now, and personality persists beyond bodily death." He advances beyond proved and accepted facts when he holds that the personalities of the dead overleap all physical media of records and tradition, and, without their aid, communicate with beings in the flesh. Yet if they could accomplish this feat it would be hardly more wonderful than the conquests of time and space already achieved.

But it should be noted that, unlike the *terra firma* that greeted the eyes of Columbus, the shores of the new continent of the soul, a landing upon which the British Association's President proclaims, he sees to be treacherous, if promising. The voyagers thither may find themselves caught in its quicksands.

The curious feature of this editorial is that the writer admits that minds of the living can influence living bodies at a distance, asks whether disembodied spirits might not do the same, and then asserts that personality survives death, but immediately affirms that Sir Oliver Lodge " advances beyond proved and accepted facts " in his view that communication

between the dead and the living has been accomplished. Has it not occurred to this poor editor, who has never investigated this subject scientifically, that Sir Oliver Lodge, who had been a materialist, would not admit the survival of personality unless he had obtained "proved and accepted facts" of communication?

One of the most significant incidents of the meeting was the reception given it by the Bishop of Birmingham, who preached a sermon on the relation between Science and Religion, Knowledge and Faith. The occasion was given a sort of official recognition in this sermon, Sir Oliver Lodge reading the lessons in the service, and various officers of the British Association being present officially. The position taken by the Bishop of Birmingham in his sermon was reported as follows in the London *Times* of the date, September 15th, 1913:

The Bishop of Birmingham, who was the preacher in the Cathedral, tendered to the British Association the welcome of the Anglican Church in Birmingham, and expressed an earnest hope that their deliberations might be helpful to the cause of science. In the course of his address he said:

"We are constantly reminded of the fact that in past days there was active antagonism between the ecclesiastic and the scientist, though from the ranks of the religious teachers have risen more than one great scientific personality; indeed, Birmingham itself has furnished at least one notable example of this combination. It may be doubted whether it is useful, when a peace has been signed, to dwell too long upon the causes and episodes of the concluded war. It is probably best to let the lessons of the campaign teach both the contending parties how to work amicably and helpfully one towards the other in the future. At any rate, such is my own earnest desire, for I should be immeasurably poorer in my possibilities of helping humanity were I not able to use the results of the devoted energies of the men of science. How stupid is the suggestion that there must be a barrier between knowledge and belief! Even the most credulous only accepts that which he is persuaded he will one day know, even the most sceptical acknowledges that there are matters as to which he cannot yet say that he has scientific certainty, which he nevertheless accepts, and upon which to some extent his life is based.

The Purpose of Knowledge.

"What does knowledge mean? To know anything is to have a certainty of it derived from study. That study has been based upon some foundation accepted upon evidence; in other words, faith has had some place even in the realm of science. No man can say quite truthfully that to know in an objectless way is satisfying. I desire knowledge for certain definite ends, two of which are the great common ideals of the religious and of the scientific worker. These are, first, the understanding of the purposes of the Great Architect of the Universe; second, the promotion of human happiness and efficiency. When we read the words of our great Philosopher, 'A man is but what he knoweth,' or again, 'The pleasures of the intellect are greater than the pleasure of the affections,' we are conscious that either the writer is trying to isolate himself from a sense of corporate responsibility, or he is reading into the word 'Know' and into the word 'Intellect' deeper meanings than the world generally ascribes to them. I turn my gaze upon the twinkling spheres of the heavens, and as I understand the distance, construction, age of any one of them a little better than did my inquiring forefathers, I yet realize that full knowledge is further from me than it appeared to those of a past generation, but that full knowledge is to be had, though not by me, and not today, nor possibly in as many æons ahead as the world has already known. It is because of the attraction of these ends of knowledge that the student is insatiable. Who would 'scorn delights and live laborious days' even for the cold rewards of earth, if no one were the better or the wiser?

> "'Fame is the spur that the clear spirit doth raise,
> That last infirmity of noble mind. . . .'

"What is this Fame? Not a few articles in the Press, not even a page in the *Encyclopædia Britannica*, but the knowledge that some one lives better because we have lived, the knowledge that we have justified in some sense the ways of God to men.

The Welfare of Humanity.

"Science must never forget that the affections will not be ruled out of human affairs. It is because in these present days there is a greater recognition of this fact amongst the learned than there ever was that the religious teachers, who have perhaps over-estimated the power of the heart, learn gladly from you who are holding the balance more fairly than once. Whatever religious teachers may have felt as to what is commonly styled

Evolution fifty years ago, I venture to say that today there is no one who is not thankful for the great Creator's sake that the intertwining of His creatures has been accepted on scientific knowledge. Scientific medicine has revolutionized the treatment of disease and has exposed its source. You great scientists have the glory of such discoveries, but it is we clergy, as we pass from home to home in some of the poorer parts of our great cities, who can best realize how marvellously you have lessened the weight of human suffering and how you have added to the efficiency of the breadwinners of the mean streets, those toilers who are the greatest capital of the country.

"We find ourselves now, the Scientist and the Religious, understanding each other better than ever before. Stripped both of us of over-dogmatic assertion, confessing both of us to a reverent Agnosticism, we look out over the still unconquered worlds. We directly moral teachers feel sometimes sad as we contemplate the power and the forcefulness of the things which make for degeneracy; you long for some spiritual lever which shall impress men with the necessity of observing those things which make for fullest health. You are ever inquiring, ever experimenting. Allow us to share in that honorable endeavor. I protest against the notion that the Church is to be uninquiring and non-experimenting. The religious body which discourages inquiry must stagnate and must die. The condition of the departed, their closeness to ourselves, the possibility of communication with them, these are subjects as to which there has been in more recent years much consideration within the religious bodies. Are these things going to be gradually unveiled by the aid of science and faith walking hand in hand?"

The editorial in the London *Times* puts the ideas of the Bishop of Birmingham in a better way than its news column, and should be put on record here.

Certainty and Faith.

The Bishop of Birmingham, in his sermon of welcome to the British Association, said that even the most credulous only accepts that which he is persuaded he will one day know: even the most sceptical acknowledges that there are matters as to which he cannot yet say that he has scientific certainty, but which he nevertheless accepts, and upon which to some extent his life is based. Here the Bishop was making, or implying, a very necessary distinction between two kinds of belief, a distinction which is often overlooked both by the over-credulous and by the over-sceptical. There are beliefs based upon exact knowledge and

held with a certainty due to exact knowledge, which are, as it were, isolated beliefs. They may not affect the conduct of those who hold them at all, or they may only affect it with regard to their own subject-matter; and they can be changed without causing that trouble and bewilderment which a man feels when experience seems to him to refute some general article of his faith. They may be of great practical importance to mankind in general. Our health, for instance, depends a great deal upon what our doctors believe, and so does our conduct with regard to our health. But these beliefs are only concerned with matters of health, and any change in them only affects our conduct with regard to those particular matters. So we do not feel called upon to have any beliefs of our own about them; for, when we do what the doctor tells us to do, our belief is in him and in his special knowledge. Our judgment is exercised in choosing him, not in believing what he tells us. Those isolated beliefs are easily changed, however momentous the practical results of a change may be, because a change in them does not affect beliefs or conduct that are not concerned with the same subject-matter. A man of science may pass from one theory to another about the causes of a disease without altering any of his opinions about politics or morals or religion. He will remain the same man after the change, just as much as if he had merely changed his mind in choosing a suit of clothes.

But there are other beliefs that cannot be changed so easily, because we are not the same men after we have changed them, because our whole view of life and our conduct is affected by them. They are concerned with matters about which we must have some belief or other, and upon which we cannot trust the judgment of an expert because no belief about them is based upon exact knowledge. With regard to those matters complete certainty and complete scepticism are equally impossible. You cannot prove either that you have an immortal soul or that you have not; nor can you find any one to tell you what to believe about it. It is a matter about which no one human being can profess to have more expert knowledge than another; yet about it no human being can honestly profess to be indifferent—at least, the profession of indifference really means disbelief. We do not all have to be astronomers or geologists or even biologists, but we all have to live; and the question how we shall live depends upon our beliefs with regard to certain matters about which no certain knowledge is possible. It is therefore necessary that we should have beliefs about these matters; and the question is, how are we to acquire such beliefs? They evidently cannot be proved by the same methods as those beliefs which are based upon exact knowledge and which we call scientific; and the

effort to prove them so will either lead us to a paralyzing scepticism or to a blind and most unscientific dogmatism. Yet the scientific method, if it is not carried too far or applied unintelligently, may help us even in this matter. In the process of scientific discovery a working hypothesis plays a very important part. Indeed, the greatest discoverer is he who can hit upon the best working hypothesis, and no amount of diligence in proof will avail him who hits upon a bad one. But with regard to those other beliefs we must depend upon working hypotheses altogether; and we can never hope to prove them, as the working hypotheses of science are often proved, once and for all and beyond the possibility of doubt, by any instructed person. Indeed, our business with them is not to prove them thus to the world, but to obtain a faith in them that shall be sufficient for ourselves; and, though we may wish to communicate this faith, we cannot hope to do so by scientific methods.

The very word faith implies an effort to believe, working in the highest intensity of belief. Scientific belief is complete so far as it goes and satisfied with itself. But faith is never satisfied with itself and never complete; since it is always trying to embrace a larger subject-matter, and could not be certainty on any one particular, unless it were certainty about the universe. This it never can be in this life; and therefore it must remain a working hypothesis even for those in whom it is most intense. Yet faith is something far more than the working hypotheses of science; for it can be held with a passion which those never inspire, a passion which is caused by its far-reaching consequences and its power of harmonizing the whole of life. For that very reason it has its temptations; there is a false faith which men aim at, because of the comfort which they hope to get from it. The real faith is the result of the passion for truth; and it is faith because it knows that that passion cannot be entirely satisfied. It never mistakes itself for the certainty of science; yet it delights in the tests of experience because each new test makes it more sure. All life is a discovery to it; but each discovery, however surprising, does not seem to it unexpected. That coherence which it has made of the past gives coherence to the present, and it assimilates each new event as a healthy body assimilates food. Thus, as the Bishop of Birmingham said, it has no conflict with the exact knowledge of science; indeed, it is the more scientific because it does not pretend to the certainty of science, and it has a joy in its own uncertainty which the faithless mistake for certainty, as the coward mistakes the joy of the brave adventurer for security.

The chief significance of this position both on the part of

the Bishop of Birmingham and of the editor of the London *Times* is the fact that the relation between psychic research and religion is thus officially admitted. The attitude of Sir Oliver Lodge on these matters and the position defended in some of his books were the offer of an olive branch to the church and it has accepted this sign of peace. No word is said about Spiritualism, but the church shows, just as indicated in a recent editorial in this *Journal*, that it is going to appropriate the result and not acknowledge its source.

On the main contention of the Bishop of Birmingham and of the editor of the London *Times* the writer would take direct issue. He thinks it states the issue wrongly. Both make it the antithesis between knowledge and faith, identifying science with knowledge. The opposition is between certitude and belief without evidence. This view the writer thinks is absolutely false. But he cannot blame the Bishop of Birmingham and other religious thinkers for adopting it: for they have only accepted what the scientific man has stated over and over again and what the address of Sir Oliver Lodge indicates; namely, that science is metrical and occupied with accuracy and certainty. As stated above the present writer refuses to make certitude the necessary feature of science. Certitude and knowledge are most desirable and science is perhaps the only method that can give them, but it is not constituted by this purpose. It is the method of determining belief by present experience as distinguished from mere tradition, and in this way it predetermines the right to faith of any kind, and faith can in no way settle the validity of a belief without consulting the authority of experience, unless it means to substitute force for reason in practical conduct, and that is what it always has done when it refused to recognize this experience as its guide. The problem is wrongly stated when it is put as a choice between knowledge and faith, implying that faith is not a result of science. To the present writer no faith is rationally legitimate unless determined by science or the method of interrogating experience which he defines as science. This position unifies human attitudes and refuses to admit of two independent authorities. The attitude of both combatants is only one

which insists on preserving a conflict where there need be none. Science is the only legitimate authority in the formation of convictions, whether they are probable or certain.

The article by Sir William Barrett in *The Contemporary Review*, so quickly requested and so promptly supplied, simply summarizes for the general public the main points of Sir Oliver Lodge's address, and emphasizes its importance in the impetus which it gives to psychic research by putting it on the basis of respectability, whereas it had previously only been scientific! Sir William Barrett's article is well worth perusal as an impartial statement of the case for general readers, and its use in *The Contemporary Review* (October, 1913) marks another step in the recognition of the subject.

AN IMPORTANT EXPERIMENT.

By James H. Hyslop.

Readers of the *Journal* will recall the experiment with Miss De Camp and the phenomena associated with her own automatic writing (Vol. VI, pp. 181-265). That experiment was occupied with the effort to see if the material, which had to be explained by subconscious fabrication for lack of proof, of the impersonation of Frank R. Stockton was what it claimed to be in the automatic writing of Miss De Camp. Miss De Camp was writing stories that purported to be dictated by the late Frank R. Stockton, and the circumstances under which it was done prevented the superficial explanation from being hastily accepted. But by taking Miss De Camp to Mrs. Chenoweth, under test conditions, Miss De Camp's identity and experiences having been concealed from Mrs. Chenoweth, I obtained through the automatic writing of Mrs. Chenoweth the statements that Frank R. Stockton was present and had been the author of the stories through Miss De Camp's hand, and this without hinting myself that any such claim had been made. This being undoubtedly supernormal information through Mrs. Chenoweth tended to confirm the claim made in the automatic writing of Miss De Camp. In the incident of the picture drawn by Mr. Duysters we had a similar phenomenon. He had partly drawn a sketch before his death and purported to finish it through the automatic drawing of Miss De Camp. In this, as in the Stockton incidents, a phenomenon which superficially purported to be spiritistic might most naturally be explained by subconscious reproduction of normal knowledge by Miss De Camp. But through Mrs. Chenoweth Mr. Duysters claimed to have finished the picture. Here, again, as in the Stockton incidents, what had to be explained as a subconscious production, where there was not adequate evidence of another

source, becomes most probably a spiritistic phenomenon. The natural explanation does not apply to the mediumistic experiment for the facts and so will hardly apply to the experiences of Miss De Camp.

The experiment which I am here to narrate has a similar character, except that it represents a dream or hypnogogic illusion on the part of the gentleman whom I took to Mrs. Chenoweth. He had been awakened from his sleep, at least apparently so, by the apparition of his dead friend communicating with the sleeper. Recognizing that the experience would be regarded as an hallucination by the Philistine, the gentleman asked the apparition to tell him something to prove his identity. The dead friend then communicated the incident that in a game of cribbage, he, the deceased friend, when living, had asked this gentleman to play a game of poker with this hand because he had a straight flush. This was a fact. But the whole experience is liable to the objection that it was a hypnogogic illusion. There was nothing supernormal in the information given, in so far as evidence of the fact was concerned. I therefore took him to Boston from New York, registered him under a false name, and took him to Mrs. Chenoweth who never saw the man in her normal state. The same deceased friend purported to communicate and described the experience in general which the sitter had had and, alluding to their playing cards together, gave the nickname by which he was called in the little club which met for card games. Here again an incident which had to receive a natural explanation from the circumstances becomes most probably a spiritistically inspired incident.

The important lesson in it, as well as in the Stockton and Duysters incidents, is that phenomena, which we may most naturally infer to have been normally produced, are actually supernormal and externally inspired. What we had ordinarily to interpret as a hypnogogic illusion became an incident transmitted from the dead. We are then entitled to ask where this sort of thing stops. What means have we for limiting spiritistically inspired events? If these occasional incidents which we have all along been explaining away, but which a mere accident proves to have probably had

a supernormal origin, are to be referred to spiritistic agencies may not such influences exercise a far more extensive influence on human life than we usually suppose?

I quote such parts of the detailed record as are related to the personal identity of the person who appeared in the dream and who purported to communicate through Mrs. Chenoweth. We have only to keep in mind the conditions under which the experiment was performed in order to determine the significance of the facts. The communicator concerned did not appear at the first sitting, the sitter's mother having been the communicator on the first day. There was no request that any one appear. The whole thing was spontaneous, and I knew none of the facts except the incidents of the dream. The following is the relevant part of the record on the second day.

Mrs. Chenoweth medium. June 11th, 1912. 10 A. M.
Present, Mr. W. and James H. Hyslop.

[Automatic Writing.]

Can it be that I am at last waking to the realization of the absolute and direct contact with you, dear one. I am so glad and so happy to enter into the atmosphere with sufficient energy to make a definite response to my thought and desires.

[There was great struggling and groans with almost every word written.]

It is not hard for me but I make too much of an impact I was told yesterday [reference to possible effort the day before], and I am trying to do better today.

[The struggle was very marked and the psychic rolled her head about and groaned as if the trance would break up. I placed my hand on her forehead to calm her and then the writing became calm with the word " do " above, and continued so till I removed my hand.]

I think some one has cut off some of my energy.

(Yes, the light was groaning and had some distress, and I held my hand on her head.)

[I then removed my hand and the groaning began again with the writing and it indicated the same struggle and heavy lines as before.]

I am glad for it. You are not [placed my hand on forehead and writing became calm at this point] afraid of what I do.

(No, I am not.)

I am so unused to this but wish to reach him and to give him

all I can. Does it seem as if I were dead? No not to me and I am not unhappy either although I thought I would be seen with D D yes with D uncl... [read 'Daniel' tho I thought the letters were 'Danel'] wi...D [pause] D [pause] D a v...D a [pause and scrawls] P P D

(Do you know a 'P. D.'?) [Said to sitter, who shook his head and I made no reply.]

P. D. D a v e D a v i d [read 'Davie'] D a Uncle [not read] Uncle D uncle yes [to reading as 'uncle' was not read till then.] long gone long ago. He was called Uncle David.

[Sitter whispered in my ear: "We used to call Swing 'Uncle David'.]

Called so by all of us.

(Yes, what profession was Uncle David?)

Yes I hear. P ph p dr [not read] dr. You know how everybody sought him and he was always open house, but that was long ago. I wish I could talk about our church. It is not so interesting to me as it was, but still I like to think about it and the work I did. B B [groan].

(Stick to that.)

[Groan.] B B e e...B e e n. No B e n...B e [pause] o r not it not o.

(All right. Stick to it.)

B e [pause] * * [undecipherable] B e * * B r [pause] Why do I fail, I wonder, when it is on my mind.

(Just stick to it and you will get it.)

B e * * B e n. no it is not an n and I do not intend to make n.

(I know it. Stick to it.)

B e a a I want to stay. B e a l B e a n B e a n. [not read at time.] I can do it. I have most done it.

(Yes I know you can.)

B e a... B e a r B e a B e a l [violent erasure of name] B e a n [pause] Mary B e a B e a why a is all right. B e a [pencil fell, and sitting came to an end.]

Mrs. Chenoweth medium. June 12th, 1912. 10 A. M.
Present Mr. W. and James H. Hyslop.

[Automatic Writing.]

M * * [pause] B B e a B a * * [scrawl]. I thought I could do it the first thing today but I found my own efforts of yesterday have become a part of the light.

(Yes, I understand that.)

So I must overcome that with the rest. I mean my faltering. Can you make clear my thought?

[At this point occurred an apparent intrusion of another communicator which I need not quote.]

[Pause.] W [pause] l l W i l l he knows. W i l l i a m.

(Yes, he knows a William. Go ahead.) [Sitter had nodded assent to my inquiring look.]

and so do I here with me.

(All right. Do you remember anything that occurred with this friend present recently?)

You mean have I been trying to communicate do you?

(Yes, tell about it.)

Yes I do and I thought I would come here and repeat the effort. I was at home. You know what I mean.

(Yes, tell the facts.)

and I tried to make some evidence in a novel way to make him know I was alive, and part of the effort was mental and part physical. You know what is meant by that.

(Yes.)

And I still kept at it till they thought I must want something particularly. You know they are the ones who want particularly what I am trying to write is that I am not troubled but only anxious to let him know I live.

(Yes, what did you tell him to prove that you lived?)

I will tell him again.

(All right.)

And he knows it is so different here that I have to work as best I can. I can tell him directly you know. (Yes, and.....) mental dreams come to him, you know, and where I put things I can remember you know.

(Yes, good.)

No, it is not very good yet, but it will be as soon as I get hold better.

(I understand. Take your time.)

It is because he needs me and because I am so near in spirit that I can give him what I did. I want him to know now much more about the house where we lived.

(All right. Go ahead.)

L L L i z z i e. [pencil fell and reinserted.] The writing nervous.

(Just keep calm. I will help.)

dear * * how can I do what I wish. The noise bothers me. [Some noise outside house. I held my hand on the medium's arm a few moments.]

Thank you. Now I can go on. I think I want to talk about what he found out afterwards. Do you know what I mean?

(He says yes. Go ahead and tell it.)

and it was just as I had told him which proved to him I had

been with him and recalled the past for it was a thing connected with the past. I mean before death. He knows what I mean.

(Yes, perfectly.)

And he had to do some hunting and questioning. I will do more of this same work with him and I know I can but he is not to think I am troubled. I found out after I came here how it was best to recall such things and so I do it.

I am with my own. What made you write. Do you know [what] I mean? He wrote after the test before and before too, but afterwards to you.

(I got knowledge afterward, and if you can tell exactly what you told to prove....) [Writing began. I had evidently misunderstood the real purport of what was intended in the message.]

To go and see. To go and look. To go and find it and see if what I told him about it was true. [Pause.]

I cannot write what I want, but he found what I told him he would. Do you know what I mean?

(No, I do not know exactly what you mean by that, but I do know what you said to him to prove that you were alive, and it would be good to have that on paper here.) [I still misunderstood what the communicator was driving at, as I knew nothing of the facts and thought he was trying to tell the incident I knew. But he was trying to mention another and more important one.]

Yes and I know it as well as you do and I have made a desperate effort to do it.

(All right. Stick to it.)

I found him in just right condition to receive and that was how it happened and the reason he was in condition was something he had been doing which put him in rapport with me and so I was able to do it. He did not know the value of what I gave him till after the test. You know that do you not?

(He recognized the importance of the evidence at once.)

No that is not what I meant.

(All right. Tell it clearly.)

He knew the value of the evidence as evidence, for he has known about the work, but at the time he did not know whether evidence was of such nature. No, I do not mean that, but it had to be proved to be me in order to be of the value it is. Do you know now.

(How would it have to be proved true?)

Finding out if what I tried to tell him was as described.

(How would he find that out?)

By effort and inquiry of others because he did not know all facts.

(All right. He says he knows what you are talking about.)

All right. I thought he would. But you are a catechizer.

(Yes, that is what I am.)

You have to be I suppose. (Yes.) and I would be glad to help you if I could. I seem very stupid and slow to you, but I assure you I am doing the best I can.

(I know that.)

It is my desire to help, not hinder. I wish I could tell him about the uplift it gives me to come to him. Does he know anything about a Cat kitty [read 'key' doubtfully] Kitty Kittie [read 'kettle'] No at Kitty. Yes [to reading] Cat father cat. They do not belong together, father and cat are two.

(Yes, I understand.) [Sitter smiled and nodded indication of understanding the passage. I did not.]

Small cat here.

(How did you and your friend here use to amuse yourselves?)

Well, what do you mean, a game, Kitty game. Nothing for the kitty. What am I writing. No, not that, but a play game. Yes he knows.

(Yes, that is right. Stick to it.)

And it was sport, not gamble you know. Sport, we never played to rob. He knows I could b e a t h i m [heavy lines.]

(Mr. W.: He said he could, but he couldn't.) [Said *sotto voce.*]

If he had been fair. He was always quiet and sure and played a winning game, but God help us I cannot beat him now. I have no use for the sport. This is sport enough.

(I expect it is.)

for any man and keeps his wit at high speed, but I am serious enough about it to desire only the best results for him.

(What do you want him to do?)

I want him to watch out for me and I will keep at this until I have made good. He knows that language. I know that it is not easy to forget old associations and make new ones and I do not want that, but I do not want the old associations to cast shadows because of my death. But the new interest in what I am able to accomplish will in part supply my loss to him. He understands about business.

(All right. Go ahead.)

Am I gaining any? I seem to be writing better.

(Yes, gaining like everything.)

Good. I ought to stay a week and perhaps I might give a good account of myself.

(Yes.)

We must master the mechanics of the thing first, I think. But to return to business. I had a little he knows and that, while I left it in fairly good order, no man can slip away and not feel he would have left things differently. That is not so bad in my case, as in some, but still it holds good. So sorry I had to go. He knows that, and this old room, not old in the sense of age, but familiarity.

(I understand.)

My room Club you know.

(Did he belong to a Club?) [Said to sitter and sitter shook head.]

The Club, dear me, am I losing energy? I will come again. He knows the Club I mean.

(Yes he does.) [Sitter had nodded his head in response to my look.]

I miss the talks and smoke. He knows. I am not smoking now.

(Good.)

It would be too suggestive to say I was. Goodbye, old man. He knows old man. [Pencil fell.]

The general significance of all this is apparent from the story that I told in the introduction. I repeat it. The sitter had a dream or something like it in which he was awakened seeing the apparition of his dead friend who carried on some communications with the sitter. The latter found it best to test the apparition by asking him to prove his identity and the communicator told him an incident in a game of cribbage and poker. I was trying to get this incident as a cross reference, after the reference to the communication " partly mental and partly physical ". But it is now apparent that the communicator was intent on the more important incident of a business matter which would naturally hang heavily on his mind. The notes explain details. But the final allusion to the club at his room, the game of sport, " kitty " and " father cat " clinched his identity tho it did not repeat the incident in the hypnogogic experience. A " kitty " was provided in the game that this little private " club " used to play and the host was always called " father cat " by the sitter, so that the statement that " kitty " and " father cat " do not belong together has its interesting significance. The evidence of identity is clear and the main point of importance is the one

mentioned in the introduction. We have an experience on the part of the sitter that is not self-evident and that most naturally yields to the hypothesis of hypnogogical illusion. But the moment that I take the sitter to a psychic under test conditions, the right person purports to be present and to communicate incidents connected with this apparition. What otherwise would have to be referred to subconscious action seems to have the origin which it superficially claims to have had. No one knows how far the influence extends which is implied in such a phenomenon. I have no doubt that, if I took other cases to the psychic, I should obtain such cross references and corroborations of incidents and experiences that the average Philistine jeers at if pressed with them alone. But when they receive the confirmation of a repetition through a mind that did not and could not know the facts or the person present the whole import of the incident changes. What seemed only a casual dream before becomes most probably just what it purported to be on the face of it. How far such influence from the transcendental world extends no one can say, but such facts show that it exists and may have indefinite extension over many other facts not fortunate enough to obtain the proof which these incidents have.

We may some day come to the conclusion that spiritistic influences on human life are very extensive. They certainly have that appearance, tho the character of the facts and their meaning are apparently not very interesting, at least on the surface. Whether they are attractive to us or not makes no difference to the scientific question. We can not admit æsthetics into the issue. It is a problem to determine whether the extent of spiritistic communications is limited to the evidential incidents, in cases where that evidence does not appear on the surface. Many such experiments as the one here recorded would give us some idea of the large extent to which superficially non-evidential phenomena were really what they purport to be, and it will be a most important task in the future to experiment on a large scale in this direction.

BOOK REVIEW.

Some Problems of Philosophy. A Beginning of an Introduction to Philosophy. By William James. Longmans, Green, and Company. New York, 1911.

Professor James did not live to complete this work. He had long wished to write out his philosophic views and started to do so, but the grim messenger of death called him from the task just as he had begun it. Even this "Introduction" was left in an unfinished state and had to be edited by one of his pupils and friends.

The work has no direct interest for psychic researchers. It is not a discussion of any psychic problems and no one would suspect him even interested in its problems, if he had to search for this in the work under notice. He confined himself strictly to what he regarded as certain philosophic problems. What he might have done at the end of the work, as he spoke of this as a mere "beginning of an Introduction", we do not know. Hence the only interest for us as psychic researchers in a book of this kind will come from our general philosophic dispositions and the personal admiration which Professor James always aroused.

The work tries to discuss its problems in a vernacular that will be intelligible to even the layman, tho even this class must be familiar with philosophic problems to follow him. Inevitably there is some technical phraseology, but Professor James tries to reduce this to its lowest terms.

We shall not undertake an estimate of the work and its views. That would take us far into large problems without immediate interest. But we may remark that the work is conceived in strong antagonism to that Kanto-Hegelian movement which rang all the changes in philosophic problems on the same formula, and eschewed all the facts that did not appear in the normal gamut of human experience. Professor James stood for what he called "Pluralism" as opposed to "Monism" and here defends his position as radically as he can. To the present reviewer neither monism nor pluralism has any interest whatever of an important kind and he does not think any headway beyond the stage of childhood is to be obtained by discussing them. But where a man earnestly endeavors to get a stable basis for scientific method by the treatment of his problems in this way he deserves manifest respect and shall receive it, whatever we may think of the way the problems are approached. Professor James stood for clearness in thinking and whether any of us can find this in his treatment of his problems or not, the effort must be regarded as superior to most of the philosophizing of this age. We may differ from Professor James and even think him obscure, but if we turn to others for light we shall quickly return to him as being more intelligible than the craft generally.

ERRATA

Page 4, line 27. For *things which* read *things of which.*
Page 6, line 6. For *investigation than* read *investigation from.*
Page 8, line 10. After *supernormal* read *influences.*
Page 8, line 15. For *where* read *when.*
Page 9, line 8. For *conjurer and layman who knows* read *conjurer and the layman who know.*
Page 73, line 15. For *had better* read *would better.*
Page 76, line 10. After *weakest* omit *and.*
Page 77, line 33. For *sanatorium* read *sanitarium.*
Page 83, line 13. For *Second* read *Secondly.*
Page 86, line 12. For *to fight* read *in fighting.*
Page 111, line 35. For *took* read *was taken.*
Page 121, line 19. For *sanatorium* read *sanitarium.*
Page 132, line 11. For *LOUSE* read *LOUISE.*
Page 141, line 28. For *technic* read *technique.*
Page 142, line 11. For *awhile* read *a while.*
Page 151, line 26. For *previous* read *previously.*
Page 156, line 27. For *they had* read *they* [*she*] *had.*
Page 158, line 11. For *a catarrh* read *catarrh.*
Page 161, line 2. For *cannot but* read *can but.*
Page 174, line 23. For *struck with* read *struck by.*
Page 199, line 33. For *a metaphysics* read *metaphysics.*
Page 207, line 22. For *Sharps* read *Sharp's.*
Page 215, line 8. For *A. L. Fone* read *A. L. Force.*
Page 220, line 26. For *employe* read *employee.*
Page 254, line 1. For *mediums* read *médiums.*
Page 254, line 1. For *Melanges* read *Mélanges.*
Page 256, line 17. For *raison d' etre* read *raison d' être.*
Page 273, line 17. For *subconsious* read *subconscious.*
Page 283, line 25. After *discriminate* read *between.*
Page 289, line 11. For *Captian* read *Captain.*
Page 294, line 33. For *Marshall* read *Marshal.*
Page 299, line 29. For *with Beulah Miller* read *by him.*
Page 299, line 36. For *cannot* read *can.*
Page 301, line 4. For *to suppose* read *in supposing.*
Page 301, line 38. For *antagonist* read *antagonists.*
Page 303, line 5. For *Melanges* read *Mélanges.*
Page 303, line 31. For *with* read *from.*
Page 304, line 5. For *to last* read *to the last.*
Page 304, line 33. For *fulfill* read *fulfil.*
Page 307, line 1. For *nessessary* read *necessary.*
Page 308, line 7. Insert period after *conditions.*
Page 309, line 8. For *easy* read *easily.*
Page 310, line 8. For *method* read *methods.*
Page 310, line 34. For *telepthy* read *telepathy.*
Page 328, line 37. For *visuel* read *visuelle.*
Page 329, line 5. Insert period after *communicating.*
Page 330, line 39. For *be* read *is.*
Page 343, line 39. For *communicators* read *communicator's.*
Page 372, line 14. After *metaphysics* insert *and.*
Page 374, line 4. For *sympton* read *symptom.*
Page 382, line 31. For *them"* read *them.*
Page 402, line 36. For *efficience* read *efficiency.*
Page 413, line 18. For *somnolent* read *" somnolent.*

Page 416, line 7. For *plenty* read *large numbers.*
Page 417, line 25. For *imaginary* read *my imaginary.*
Page 422, line 5. After *rationalism,* omit *and.*
Page 422, line 21. For *Christian* read *a Christian.*
Page 422, line 30. For *previous* read *before.*
Page 425, line 10. For *bid us good-by* read *bade us good-bye.*
Page 432, line 4. For *glimpse* read *glance.*
Page 434, line 5. For *prevalence in* read *prevalence among.*
Page 438, line 5. For *one of* read *among.*
Page 438, line 25. After *better* insert period.
Page 443, line 36. After *torrents* insert period.
Page 443, line 37. After *hearse* insert period.
Page 456, lines 17, 27. For *crape* read *crêpe.*
Page 464, line 14. For *enfolding* read *duplicating.*
Page 466, line 2. For *localizd* read *localized.*
Page 468, line 29. For *forms* read *form.*
Page 470, line 33. For *judgments* read *judgment.*
Page 480, line 14. For *they all rung* read *they all rang.*
Page 508, line 22. For *sometime* read *Some time.*
Page 510, line 29. For *treat* read *treating.*
Page 514, line 7. For *fulfillment* read *fulfilment.*
Page 524, line 15. For *dialectic* read *dialectics.*
Page 526, line 11. For *wone* read *want.*
Page 531, line 12. For *does* read *dies.*
Page 552, line 29. After *ear* read *to.*
Page 553, line 6. For *Mephistopholes* read *Mephistopheles.*
Page 556, line 14. For *dialectic* read *dialectics.*
Page 565, line 4. After *concerns* insert comma.
Page 565, line 13. For *æsthetic* read æsthetics.
Page 569, line 30. For *Boethius* read *Boëthius.*
Page 577, line 1. For *eariler* read *earlier.*
Page 582, line 30. For *modern physics* read *the modern physicist.*
Page 582, line 33. For *abide* read *await.*
Page 584, line 24. For *found in* read *given by.*
Page 585, line 26. For *sanatorium* read *sanitarium.*
Page 588, line 27. For *explain* read *deal with.*
Page 588, line 36. For *in more* read *in the case of more.*
Page 591, line 19. After *taken* read *ill.*
Page 593, line 13. For *collective* read *a collective.*
Page 594, line 34. For *as usual* read *as is usual.*
Page 605, line 33. For *previous* read *before.*
Page 610, line 13. For *is used* read *are used.*
Page 612, line 24. For *any* read *anything.*
Page 636, line 28. For *Mrs. L's* read (*Mrs. L's*).
Page 636, line 32. For *prevnous* read *before.*
Page 636, line 36. For *ugly* read *disagreeable.*
Page 637, line 8. For *in years* read *for years.*
Page 637, line 13. Before *impossible* insert *perhaps.*
Page 637, line 15. For *about things about* read *and showed.*
Page 641, line 30. For *sometime* read *some time.*
Page 649, line 5. For *homeopathy* read *homœopathy.*
Page 653, line 18. For *in* read *for.*
Page 654, line 14. For *homeopathy* read *homœopathy.*
Page 655, line 15. For *phycisian* read *physician.*
Page 656, line 36. For *strong* read *strongly.*
Page 659, line 24. For *from whence* read *whence.*
Page 661, line 19. For *to the actor* read *in the actor.*

JOURNAL

OF THE

American Society for Psychical Research

Section "B" of the American Institute for Scientific Research

Vol. VII. DECEMBER, 1913 No. 12

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¶ Published by the American Society for Psychical Research, 15 Madison Street, New York City.

¶ Entered as second-class matter, January 11, 1909, at the Post Office of New York, N. Y., under the Act of Congress of March 3, 1879.

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